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AGENT FOR PROPHYLAXIS OF ACNE DISEASE AND METHOD OF PRODUCING IT  
[SREDSTVO DLYA PROFILAKTIKI UGREVOY BOLEZNI I SPOSOB YEGO POLUCHENIYA]

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## DESCRIPTION OF INVENTION

The invention concerns the field of cosmetology and basically deals with cosmetic agents preventing the development of acne disease, and also is to be used for skin care, primarily for oily and combination facial skin.

Acne disease is a chronic inflammatory disease of the sebaceous glands, manifested, in particular, in the excess formation of the secretion of the sebaceous glands - skin oil and increased keratinization of the orifices of hair follicles, which leads to the formation of plugs in the orifices and in the ducts of sebaceous glands with further development of the inflammatory process.

Known methods of acne disease prophylaxis utilize hygienic procedures such as washing with borate-thymol or carbolic soap, wiping the skin with alcohol-glycerin solutions with boric acid or calendula.

If individual pimples are present, it is recommended that they be carefully squeezed out after a steam bath [D. Lass. Ukhod za kozhey litsa (Facial Skin Care). Moscow, Aquarium, 1994, p. 71-74].

A cosmetic procedure such as facial cleaning is widely used for prophylaxis and treatment of acne disease in the initial stage. This softens the plugs clogging the orifices and ducts of sebaceous glands, using steam baths, hot compresses, or paraffin masks. The skin is wiped with alcohol or eau de cologne. Pimples that have already formed are squeezed out.

Skin cleaning may be performed after having preliminarily lubricated the skin with nutrient cream or having applied an oil mask,

by rubbing the skin with salt or with the use of a mask made of borax and kaolin [D. Lass. Ukhod za kozhey litsa (Facial Skin Care). Moscow, Aquarium, 1994, p. 126-131].

The existing methods for acne disease prophylaxis cannot be considered to be sufficiently effective - they do not prevent the appearance of the disease, but only contribute to partial removal of already formed plugs.

The object of the invention is to increase the effectiveness of acne disease prophylaxis by preventing the formation of plugs clogging the orifices and ducts of sebaceous glands.

This object was achieved as a result of using a water-alcohol extract of a freshwater sponge of the family Spongillidae.

The applicant found that that a water-alcohol freshwater sponge extract is capable of prevented the clogging of the orifices and ducts of sebaceous glands, the majority of which are located at hair roots, as a result of the increased keratinization of the upper part of the funnel of the sebaceous-hair follicle and the accumulation of the secretion of the sebaceous glands in the lower part of the duct. This extract normalizes the processes of keratinization in the orifices of the follicles and contributes to normal flow of the secretion of the sebaceous glands.

The essence of the applicant's proposal is as follows.

For prophylaxis of acne disease, and also for treatment thereof in the initial stages, the skin of people predisposed to acne is treated with an agent containing a water-alcohol extract of a

freshwater sponge of the family Spongillidae as the active principle.

A water-alcohol extract containing from 40 to 70% (by volume) of ethyl alcohol is most effective. In the first place it is desirable to perform this treatment in people who have a porous oily skin and have previously suffered from acne disease, under the recommendations of a cosmetologist. A water-alcohol extract of a sponge of the family Spongillidae may be used by itself or may be included in the composition of such traditional cosmetic preparations as lotions, gels, creams, and cosmetic masks.

The agent containing a water-alcohol freshwater sponge extract is applied to the skin and left on it for 10-20 minutes. Cosmetic cleaning of the skin and subsequent additional treatment of the skin with a water-alcohol freshwater sponge extract essentially increases the effectiveness of this procedure. Other biologically active compounds for different purposes also may be included in the composition of a cosmetic agent containing a water-alcohol freshwater sponge extract. In particular, the water-alcohol freshwater sponge extract dries the skin, and therefore it is worthwhile to introduce components that eliminate this relative deficiency of the extract into the composition of an agent containing a freshwater sponge extract. Cosmetic agents with a water-alcohol freshwater sponge extract also may be supplemented, for example, with a substance of keratolytic action, a substance capable of emulsifying fats and removing excess secretion of sebaceous glands, and with other active substances combined with a water-alcohol freshwater sponge extract.

After applying an agent including a freshwater sponge extract, it is also possible to perform other cosmetic procedures indicated in specific circumstances. The use of cosmetic agents, that include a water-alcohol freshwater sponge extract leads to opening of the pores of the skin, removal of excess sebaceous and corneous materials from the orifices and ducts of sebaceous glands, and normalization of the processes of keratinization and secretion of skin oil. As a result, the formation of open and closed blackheads is prevented and the prerequisites for the formation of acne disease are eliminated. In addition, metabolic processes in skin tissues are normalized and optimized, which improves the physiological and morphological characteristics of these tissues.

The proposed agent may be used as the basic agent for prophylaxis and treatment of the initial stages of acne disease and as an additional means for treating already developed acne disease. This agent may be used for prophylactic purposes either daily or in individual treatments, depending on the condition of the patient's skin and his propensity for acne disease.

In order to obtain a water-alcohol freshwater sponge extract, the ground sponge is extracted with 40-70% ethyl alcohol and the suspended particles are removed. The suspended particles may be removed by any acceptable method. The extraction is performed at room temperature for 20-40 days. However, these parameters are not critical and may be corrected. As a rule, one part of freshwater sponge is extracted with 5-20 parts of extracting agent.

The following examples only illustrate the essence of the proposal and are not of a limiting nature.

Example 1. Female patient V., 14 years old. Skin moderately oily, fairly porous. Immature pimples appeared periodically, even when the rules of personal hygiene were observed. There were isolated closed blackheads.

The skin of the face was wiped with a cleaning lotion, and, after 10 minutes, with a 40% water-alcohol freshwater sponge extract. The extract was left on the skin until it was completely dry. Freshwater sponge extract, obtained by means of extraction of ground sponge with 5 volumes of 40% ethanol at room temperature for 20 days, was used. Before use, suspended particles were removed from the extract by filtration through a paper filter. These procedures were repeated twice a month for the first two months, and then once a month. No manifestations of acne disease were observed during the period of observation (spring-summer season), and the skin was in satisfactory condition.

Example 2. Female patient M., 16 years old. Acne disease hardly yielding to treatment. She underwent a course of treatment with skin peeling three times, but recurrences took place within a month after the treatment. The third course of treatment was completed 10 days later. Skin fine, sensitive.

Cosmetic cleaning of the facial skin was performed, after which a gel containing a water-alcohol freshwater sponge extract and a vitamin complex as active ingredients was applied for 15 minutes. Then the

excess gel was removed with sponges, moistened with warm water, and a cosmetic mask with avocado oil on a fat-free base was applied. After removing the residues of the mask, the skin was wiped with lotion. A water-alcohol freshwater sponge extract, obtained by means of extraction of ground sponge with 20 volumes of 70% ethyl alcohol at room temperature for 40 hours. Then suspended particles were removed by filtration through double filter paper. These procedures were repeated every week for one month, and then once a month. No recurrences of acne disease took place during the following six months (the observation period). The patient was issued a gel, containing a water-alcohol freshwater sponge extract, for daily use at home.

According to the applicant's information, the proposed cosmetic agent - an alcohol-water extract of a freshwater sponge of the family Spongillidae - has not previously been used in cosmetology and has not been described before.

Only ground freshwater sponge in the form of a mask, which exerts a very stimulating action, causes expansion of the vessels, a distinct reddening of the skin, reabsorbs thickenings, and energetically peels the skin, has been used in cosmetology [D.I. Lass, M.G. Polikarpova. Ukhod za kozhey litsa (Facial Skin Care). Moscow: Izdatel'stvo Ministerstva kommunal'nogo khozyastva RSFSR. 1954, page 67].

The applicant believes that his proposal meets the requirements imposed on inventions.



## FORMULATION OF INVENTION

1. An agent for prophylaxis of acne disease, wherein it includes a water-alcohol extract of a freshwater sponge of the family Spongillidae.

2. The agent according to paragraph 1, wherein it includes a 40-70% water-alcohol extract of a freshwater sponge of the family Spongillidae.

3. A method of producing an agent for prophylaxis of acne disease, wherein the biomass of a freshwater sponge of the family Spongillidae is ground, extracted with 40-70% aqueous alcohol, and the suspended particles are removed.

4. The method according to paragraph 3, wherein the extraction is performed at room temperature for 20-40 days.

5. The method according to paragraph 3 or 4, wherein 1 part of the biomass of a freshwater sponge of the family Spongillidae is extracted with 5-20 parts of extracting agent.

**INFORMATION CONCERNING A CHANGE IN LEGAL STATUS**

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